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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/541,773	04/03/2000	Bryan Keith Bullis	RAL9-99-0137	4749
25299	7590	07/01/2004	EXAMINER	
IBM CORPORATION PO BOX 12195 DEPT 9CCA, BLDG 002 RESEARCH TRIANGLE PARK, NC 27709			LEE, TIMOTHY L	
			ART UNIT	PAPER NUMBER
			2662	9

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/541,773

Applicant(s)

BULLIS ET AL.

Examiner

Timothy Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-11 and 20-22 is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 5,6 and 16-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 12, 13, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalkunte (6,138,189) in view of Helm et al. (US 5,483,671).

3. Regarding claims 1, 12, and 13, Kalkunte discloses a network interface that transmits data packets between a host computer and a network and includes a FIFO buffer with an adaptive transmit start point determined for each data packet. Kalkunte sets out to improve upon the prior art that teaches transmission from a FIFO when the FIFO contains an amount of data corresponding to a predetermined transmit data threshold (transfer a portion of a data cell from the entry section prior to the data cell being completely received by the entry section). See col. 1, lines 30-33 and col. 1, lines 62-65. Fig. 2 shows a flowchart of the process. The interface 10 from Fig. 1 first begins to receive data packets from the CPU via the PCI bus 12 on a packet-by-packet basis in step 56. Specifically, the interface 10 receives one or more burst transmissions for each data packet. See col. 5, lines 10-16. The FIFO control 34 then calculates the total time to fill the FIFO 32 for the current packet having length L and the total time to remove the packet from the FIFO. See col. 5, lines 33-36. See step 62 of Fig. 2. If in step 64 the time for removal of the packet from the FIFO 32 is less than the calculated time for packet filling, then the removal rate is greater than the calculated arrival rate for the packet into the FIFO 32. The

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transmit threshold XMTSP is then adjusted to ensure that underflow doesn't occur during transmission of the packet (the signal being provided once an amount of data received by the entry section reaches a predetermined threshold, the predetermined threshold being sufficient to ensure that reading of the data cell cannot get ahead of the writing of the data cell). See col. 5, line 62-col. 6, line 11. Kalkunte does not expressly disclose writing another data cell before the data cell is completely read from the entry section, where the signal is based on a second threshold. Helm et al. discloses filling a buffer as soon as a certain threshold has been met. Fig. 2 shows the process. For example, when the buffer depth is less than a first threshold 205 but greater than a second threshold 208, then the system is instructed to begin sending an information packet to the buffer. See col. 3, lines 16-18. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use the buffer filling taught by Helm et al. in the system disclosed by Kalkunte. One would have been motivated to do this because it would improve the overall buffer utilization by having the next data cell being sent as soon as there was sufficient space available.

4. Regarding claim 3, as shown in Fig. 2 of Kalkunte, the device 10 contains receive and transmit FIFOs (buffer entry section).

5. Regarding claims 4 and 14, neither Kalkunte nor Helm et al. expressly discloses an asynchronous signaling circuit. However, it would have been obvious to implement the teachings from the combination of Kalkunte and Helm et al. in an asynchronous environment. One would have been motivated to do this because this would make the system compatible in where data does not tend to flow in a synchronous fashion.

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6. Regarding claim 15, it is inherent in the combination of Kalkunte and Helm et al. that there is an “add signaling” and “remove signaling” portion in order to commence the process of either reading the data or writing the data.

Allowable Subject Matter

7. Claims 7-11 and 20-22 are allowed.

8. Claims 5, 6, 16, 17, 18, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments with respect to claims 1 and 3-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Firoozmand (US 5,210,749) discloses forwarding a frame before the frame has been fully received.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TLL
Timothy Lee
June 23, 2004


HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600